Research Article

University Students' Involvement in Body Piercing and Adherence to Safe Piercing Practices: Do Males and Females Differ?

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Abstract

Background: *Health concerns of body piercing include infection, scarring, allergic reactions, pain, and disease. Current gaps in the research include students' perceived piercing risks and safe piercing practices.* ***Purpose:*** *The purpose of this study was to examine university students' involvement in body piercing, risk consideration and adherence to safe piercing practices.* ***Methods:*** *A sample of 536 university students completed a 44-item survey regarding body piercing.* ***Results:*** *Results indicated that 35% had ever had a body piercing. Most obtained their piercing at a tattoo parlor (65%) and most did not consider the risks of allergic reaction (43%), HIV (31%), Hepatitis B (20%) or Hepatitis C (20%). Males were significantly less likely than females to have considered the risks and to have engaged in safe piercing practices. Two-thirds reported that information about the risks of body piercing would be helpful in making decisions on whether to obtain future piercings.* ***Discussion:*** *Education on potential complications is warranted. Awareness campaigns should ensure that young males are informed regarding risks and safety precautions.* ***Translation to Health Education Practice:*** *Health educators should become aware of the risks of piercings and share this information with young adults so they can make healthy and informed decisions.*

BACKGROUND

In the United States, the practice of body piercing has recently increased among adults and adolescents.[1] Although individuals from various populations modify their bodies with piercings, young adults and university students in particular have embraced the custom with greater frequency.[2] Previous studies found that 45–51% of university students have had their body pierced.[3,4] Of this population, almost two-thirds (63%) obtained their piercing during the traditional college-age range of 18 to 22 years.[5]

Body piercing involves inserting a needle into an area of the body to create an opening in which jewelry may be worn.[6] Outside of the earlobe, common piercing sites include eyebrows, tongue, nose, tragus, nipple, navel, and the genitalia.[7] Body piercings are often obtained from tattoo parlors or piercing studios, but many of these venues employ unlicensed, unregulated artists.[8] Additionally, some individuals perform piercings at home on themselves or others.[9] Previous studies have cited a plethora of reasons for body piercings, including adornment, rite of passage, religious purposes, attractiveness, and enhanced sexual pleasure.[10-12]

One major concern related to body piercing is complications such as infection, bleeding, HIV, and hepatitis B.[13] Such complications are often linked to hygiene, aftercare, specific piercing sites, materials used, and the piercer's experience level. Improper sterilization techniques and an unclean environment can also lead to infection.[9] Of those with piercings, 10–30% report some form of infection or bleeding associated with the procedure.[7] Despite such potential problems, individuals with piercings tend to perceive few health risks associated with the practice and report that they would like additional piercings.[14]

Regarding body piercings and health behaviors, research has been inconclusive. Some studies have found no link between

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piercing and risky behaviors, while others have shown direct associations between piercing and increased sexual risk-taking, drug abuse, violence, and suicide.[15] Clearly, more research is needed in this area.

Most studies involving body piercing have examined prevalence rates, reasons for piercings, and piercing-related health problems. A comprehensive review of the literature found no study examining university students' perceived risk of piercings or engagement in safe piercing practices, nor whether piercing status was associated with risky health behaviors. Research has indicated that males tend to engage in a greater frequency of risky behaviors than females,[16] but no published study was found that had investigated whether significant differences in piercing status, perceived risk, and piercing practices exist between males and females. Such information could greatly assist in the planning and delivery of educational and awareness campaigns aimed at safe body piercing and the prevention of unhealthy outcomes. In addition, no previous study has investigated whether piercing involvement differs based on race, membership in a fraternity/sorority, grade level, age, place of residence, grades received in the previous 12 months, or major.

PURPOSE

The purpose of this study was to address these research gaps and enhance understanding of university students' involvement in body piercing and adherence to safe piercing practices. More specifically, the study examined six research questions: (1) To what extent are university students involved in body piercing? (2) What are the most common reasons students cite for obtaining a piercing? (3) Do students consider the risks of body piercing? (4) To what extent do students adhere to safe piercing practices? (5) Do involvement in body piercing and adherence to safe piercing practices differ based on demographic variables? (6) Does involvement in behaviors such as suicide, violence, sexual activity, or use of alcohol, tobacco, or other drugs differ based on piercing status?

METHODS

Participants

A total of 536 students in physical activity classes (N=23 sessions) at a Midwestern university served as participants in this study. Participation was strictly voluntary, and no incentives were offered. Confidentiality and anonymity of responses were ensured. No student refused to participate.

Instrumentation

A three-page, 44-item survey instrument was developed to examine college students' involvement in body piercing and their adherence to safe piercing practices. To establish face validity, the survey was developed based on a comprehensive review of the professional literature and individual discussions with local piercing artists, local tattoo artists, and both pierced and nonpierced university students. Suggestions were offered from these individuals regarding common piercing sites, common piercing practices, and potential areas of concern. In addition, national piercing/tattoo organizations and websites devoted to body modification and piercings were reviewed to assist in survey item construction. To establish content validity, the survey was distributed to a panel of experts in body piercing, risk reduction, and survey research. Suggested revisions and recommendations offered by the experts were incorporated into the final survey instrument.

Test-retest reliability was assessed by distributing the survey on two separate occasions (7 days apart) to a convenience sample of university students (N=34). Pearson correlation coefficients were computed to determine test-retest reliability for the parametric subscales ("Reasons for Getting a Piercing" and "Reasons for Not Getting a Piercing"; see descriptions below). Test-retest reliability of items assessing "Reasons for Getting a Piercing" ranged from .75 for "parents don't like them" to .89 for "fun." Test-retest reliability for items assessing "Reasons for Not Getting a Piercing" ranged from .79 for "allergic reaction" to .91 for "I do not like the way they look." Kendall's tau-b correlation coefficients were calculated to determine test-retest reliability for the nonparametric sections of the survey ("Involvement in Body Piercing," "Risk Consideration," and "Safe Piercing Practices"; see descriptions below). Test-retest reliability of items assessing "Involvement in Body Piercing" ranged from .76 for "would get piercing again" to .89 for "ever had a piercing." Test-retest reliability of items assessing "Risk Consideration" ranged from .72 for "tuberculosis" to .88 for "infection." Test-retest reliability of items assessing "Safe Piercing Practices" ranged from .69 for "autoclave" to .89 for "piercing artist wore gloves." Internal consistency reliability for the two parametric subscales yielded a .755 for the "Reasons for Getting a Piercing" subscale and a .818 for the "Reasons for Not Getting a Piercing" subscale.

The survey consisted of six major sections. Section one ("Involvement in Body Piercing") assessed college students' involvement in body piercing (N=9 items) and required students to answer by checking the appropriate boxes. A body piercing was operationally defined on the survey as "any piercing on the body excluding an earlobe piercing." Section two ("Risks of Piercing") examined safety issues and health risks of body piercings (N=20 items) and required students to answer by checking the appropriate boxes. Section three ("Reasons for Getting a Piercing") assessed reasons for body piercing (N=12 items) and required students who reported having a piercing to respond by using a 5-point Likert-type scale (1=strongly disagree, 5=strongly agree). Section four ("Reasons for Not Getting a Piercing") assessed reasons for not getting a body piercing (N=7 items) and required students who reported not having a piercing to respond by using a 5-point Likert-type scale. Section five ("Health Behaviors") assessed student involvement in selected health behaviors and required students to answer by filling in the blanks (N=18 items). Health behavior questions were modeled after those used in the Youth Risk Behavior Survey by the Centers for Disease Control and Prevention. Section six ("Demographics") required students to provide demographic and background information (N=10 items)

by filling in the blanks and checking the appropriate boxes.

Procedures

After obtaining approval to conduct the study from the Institutional Review Board, surveys were distributed to students in physical activity courses during regularly scheduled class times. At the beginning of the class period, students were informed of the study purpose and voluntary nature of the survey and assured that all responses would be kept anonymous and confidential. Students were also informed that they could withdraw from the study at any time should it make them uncomfortable. All students presented with the survey elected to complete it.

Data Analysis

All data analyses were performed using the Statistical Package for the Social Sciences (SPSS). Frequency distributions, means, standard deviations, and ranges of scores were used to describe participants' demographic and background characteristics. The following demographic variables were recoded to assist with data analysis: race (White vs. non-White), grade level (freshmen/sophomores vs. juniors/seniors/graduate students), age (18–20 years vs. 21 and older), place of residence (at home vs. away from home), grades received in the previous 12 months (mostly A's and B's vs. mostly C's, D's, and F's), and academic major (health-related major vs. non-health-related major). A series of chi-square analyses were performed to determine whether body piercing involvement, risk consideration, safe piercing practices, and nonparametric health behaviors differed based on sex, race, membership in a fraternity/sorority, grade level, age, place of residence recoded, grades received in the past 12 months, or academic major. A series of analyses of variance were performed to determine whether data from the two subscales ("Reasons for Getting a Piercing" and "Reasons for Not Getting a Piercing") differed based on the aforementioned demographic variables. The alpha level of significance was set at .05 to reduce the likelihood of committing a Type I error.

RESULTS

A total of 536 individuals participated in the study (100% participation rate). Most respondents were female (61%), White (72%), and majoring in a non-health-related field (72%) (Table 1). Approximately 70% reported living away from home, either in an apartment (45%) or in a dorm (25%). The majority (81%) reported receiving mostly A's and B's in the previous 12 months. Grade levels were fairly equally divided among freshmen (18%), sophomores (30%), juniors (21%), and seniors (29%). Most students (85%) reported that they were not a member of a fraternity or sorority.

Involvement in Body Piercing

Approximately one in three (35%) students reported ever having a body piercing (excluding the earlobe) (Table 2). Females (n=153, 48%) were significantly more likely than males (n=30, 15%) to report having a piercing. White students (n=141, 38%) were significantly more likely than non-White students (n=40, 28%) to be pierced. Piercing status (yes or no) did not differ significantly based on membership in a fraternity/sorority, grade level, age, place of residence, grades received, or major. Age of first body piercing ranged from 11 to 24 years (M=16.75, SD=2.34). Number of body piercings that students reported currently having ranged from 1 to 19 (M=2.35, SD=2.85).

Regarding body location, the navel was the most common site for a piercing (68%), followed by the tongue (22%), nose (13%), and eyebrow (11%) (Table 2). Females were significantly more likely than males to have a piercing on their navel or nose. Males were significantly more likely than females to report having a piercing on their tongue, eyebrow, nipple, or genitalia. When asked where students went to get their most recent piercing, 67% reported at a tattoo parlor, 39% at a studio, 5% pierced themselves, 2% were pierced by a friend, and 6% got their piercing at some other place. Females (n=108, 71%) were significantly more likely than males (n=15, 50%) to have obtained their most recent piercing at a tattoo parlor. Males (n=5, 17%) were significantly more likely than females (n=6, 4%) to have obtained their most recent piercing at some other place.

Table 1. Demographic Characteristics of Respondents

Characteristic	N	%
Gender		
Female	326	61
Male	205	39
Grade Level		
Freshman	94	18
Sophomore	160	30
Junior	113	21
Senior	157	29
Graduate student	6	1
Race/Ethnicity		
White	376	72
African American	111	21
Other	39	7
Residence		
Apartment	239	45
At home	143	27
On campus	136	25
Other	11	2
Average Grades for Previous 12 Months		
Mostly A's	150	29
Mostly B's	276	52
Mostly C's	97	18
Mostly D's	3	1
Mostly F's	1	1
Major		
Health Promotion/ Education	74	15
Allied Health	68	13
Other	367	72
Fraternity/Sorority		
Yes	79	15
No	448	85

N=536; missing values excluded from analyses.

Regarding alcohol and/or other drug use prior to obtaining a piercing, 17% of students reported that they drank alcohol or used another drug before they received their most recent piercing. Males (n=14, 44%) were significantly more likely than females (n=20, 12%) to have used alcohol and/or other drugs before receiving their

Table 2. University Students' Involvement in Body Piercing

Item	Total N (%)	Male N (%)	Female N (%)	χ^2	p
Ever had a body piercing (excluding earlobe)					
Yes	185 (35)	30 (15)	153 (48)	59.84	.000
No	338 (65)	171 (85)	164 (52)		
Part of body pierced					
Navel	134 (68)	3 (9)	130 (80)	64.01	.000
Tongue	44 (22)	14 (42)	29 (18)	9.59	.002
Nose	25 (13)	1 (3)	25 (85)	3.49	.000
Eyebrow	22 (11)	7 (21)	15 (9)	3.91	.048
Tragus	15 (8)	4 (13)	11 (7)	1.22	.269
Nipple	8 (4)	5 (16)	3 (2)	12.82	.000
Genitalia	6 (3)	3 (9)	3 (2)	4.82	.028
Mouth/lip	4 (2)	2 (6)	2 (1)	3.18	.075
Other	38 (19)	7 (22)	30 (19)	.20	.659
Place individual obtained body piercing					
Tattoo parlor	127 (65)	16 (50)	111 (69)	4.05	.044
Studio	77 (39)	15 (47)	60 (37)	1.09	.296
Self	9 (5)	0 (0)	9 (6)	1.86	.172
Friend	4 (2)	1 (3)	3 (2)	.21	.643
Other	13 (7)	6 (19)	7 (4)	8.90	.003
Drank alcohol or used another drug before receiving most recent piercing					
Yes	34 (17)	14 (44)	20 (12)	18.23	.000
No	160 (83)	18 (56)	142 (88)		
Would get body piercing again					
Yes	136 (76)	12 (46)	123 (81)	14.65	.000
No	44 (24)	14 (54)	29 (19)		
Have at least one friend with a body piercing					
Yes	191 (98)	31 (100)	158 (98)	—	—
No	4 (2)	0 (0)	4 (2)		

Notes: The sum of male and female responses does not always equal the total sum due to some respondents refusing to report their gender. Missing values excluded from analyses.

last piercing.

Three-fourths (76%) of pierced students reported that they would get their piercing again. Females (n=123, 81%) were significantly more likely than males (n=12, 46%) to report that they would get their piercing again. On average, both pierced and non-pierced students felt fairly neutral (M=2.87, SD=1.14) that piercings were addictive. However, when asked to rate their level of agreement or disagreement on a five-point Likert-type scale, pierced students (M=2.83, SD=1.28) were significantly more likely than unpierced students (M=2.41, SD=1.20) to report that they would like to get a future piercing. Unpierced females (M=2.78, SD=1.23) were significantly more likely than unpierced males (M=2.08, SD=1.06) to report wanting a piercing. Virtually all pierced students (98%) reported having at least one friend with a piercing.

Reasons for Obtaining a Body Piercing

Using a five-point Likert-type scale, students who reported having a piercing were asked to rate how strongly they agreed or disagreed that a series of items were reasons for their obtaining a piercing. The most common reasons cited were "fun" (M=3.78, SD=0.94), "always wanted one" (M=3.77, SD=1.08), and "adventure" (M=3.55, SD=1.10) (Table 3). Pierced females (M=3.38, SD=1.16) were significantly more likely than pierced males (M=2.89, SD=1.32) to report that they obtained their piercing because it was fashionable. Pierced females (M=3.91, SD=.10) were also significantly more likely than males (M=3.00, SD=1.18) to report that they obtained their piercing because they always wanted one.

Table 3. Reasons for Obtaining or Not Obtaining a Body Piercing

Reason for Obtaining a Piercing*	Total Mean (SD)	Male Mean (SD)	Female Mean (SD)	F	p
Fun	3.78 (.94)	3.54 (.10)	3.83 (.93)	2.28	.133
Always wanted a piercing	3.77 (1.08)	3.00 (1.18)	3.91 (1.00)	17.82	.000
Adventure	3.55 (1.01)	3.25 (1.01)	3.61 (1.01)	2.99	.086
Self-expression	3.31 (1.10)	3.29 (1.08)	3.31 (1.11)	.02	.902
Fashionable	3.30 (1.20)	2.89 (1.32)	3.38 (1.16)	3.96	.048
Curiosity	3.22 (1.09)	3.25 (1.04)	3.22 (1.11)	.02	.889
Attractive	2.82 (1.11)	2.96 (1.14)	2.80 (1.10)	.54	.465
Different than expected	2.79 (1.18)	3.21 (1.03)	2.71 (1.19)	4.42	.037
Body piercings are the "in thing"	2.44 (1.19)	2.50 (1.14)	2.43 (1.20)	.08	.777
Increase sexual pleasure	1.91 (1.13)	2.54 (1.11)	1.80 (1.10)	10.71	.001
Parents don't like them	1.86 (1.06)	1.88 (.93)	1.86 (1.09)	.01	.931
Peer pressure	1.73 (.87)	2.07 (.98)	1.66 (.84)	5.32	.022
Other	1.95 (.22)	1.89 (.32)	1.96 (.20)	2.30	.131
Reason for Not Obtaining a Piercing†	**Total Mean (SD)**	**Male Mean (SD)**	**Female Mean (SD)**	**F**	**p**
Don't like the way piercings look	3.19 (1.34)	3.32 (1.40)	3.06 (1.30)	2.83	.094
Risk of infection	2.99 (1.34)	2.54 (1.32)	3.43 (1.19)	39.12	.000
Don't like the message that it sends	2.93 (1.35)	2.95 (1.33)	2.90 (1.38)	.14	.711
Risk of disease	2.80 (1.31)	2.45 (1.30)	3.16 (1.23)	24.85	.000
Pain	2.67 (1.36)	2.16 (1.24)	3.19 (1.29)	51.16	.000
Scarring	2.66 (1.31)	2.25 (1.23)	3.06 (1.26)	32.14	.000
Allergic reaction to metals	2.27 (1.26)	2.01 (1.20)	2.54 (1.27)	13.98	.000
Other	1.85 (.37)	1.83 (.38)	1.86 (.37)	.41	.523

*N=185 pierced individuals
†N=338 unpierced individuals
Means based on a 5-point scale (1=strongly disagree, 5=strongly agree)

The least common reasons for piercing were "peer pressure" (M=1.73, SD=.87), "parents don't like them" (M=1.86, SD=1.06), and "to increase sexual pleasure" (M=1.91, SD =1.13). Pierced males (M=2.07, SD=.98) were significantly less likely than pierced females (M=1.66, SD=.84) to report peer pressure as a reason. Pierced females (M=1.83, SD=1.10) were significantly less likely than pierced males (M=2.52, SD=1.09) to report increased sexual pleasure as a reason.

Reasons for Not Obtaining a Body Piercing

Using a five-point Likert-type scale, students who reported never having a piercing were asked to rate how strongly they agreed or disagreed that a series of items were reasons for their not obtaining a piercing. The most common reasons cited were "I do not like the way piercings look" (M=3.19, SD=1.34), "risk of infection" (M=2.99, SD=1.34), and "I do not like the message that it sends" (M=2.93, SD=1.35) (Table 3). Unpierced males were significantly less likely than unpierced females to refrain from getting a piercing because of pain (M=2.16, SD=1.24 vs. M=3.19, SD=1.29, respectively), risk of infection (M=2.54, SD=1.32 vs. M=3.43, SD=1.19, respectively), risk of disease (M=2.45, SD=1.30 vs. M=3.16, SD=1.23, respectively), allergic reaction (M=2.01, SD=1.20 vs. M=2.54, SD=1.27, respectively), and scarring (M=2.25, SD=1.23 vs. M=3.06, SD=1.26, respectively).

Table 4. Risk Consideration and Safety Issues with Most Recent Body Piercing

RISK CONSIDERATION When receiving your most recent piercing, did you consider any of the following risks:	Total N (%)	Yes Male N (%)	Female N (%)	χ^2	p
Infection	158 (81)	19 (59)	138 (85)	11.53	.001
Scarring	136 (70)	14 (45)	121 (75)	10.79	.001
Allergic reaction	84 (43)	7 (23)	76 (47)	6.29	.012
HIV	59 (31)	12 (38)	45 (29)	1.03	.310
Hepatitis B	39 (20)	6 (19)	33 (21)	.03	.872
Hepatitis C	39 (20)	7 (23)	32 (20)	12.00	.732
Tetanus	39 (20)	6 (19)	33 (21)	.05	.822
Tuberculosis	18 (9)	4 (13)	14 (9)	.53	.469
SAFETY ISSUES When receiving your most recent piercing:	**Total** **N (%)**	**Yes** **Male** **N (%)**	**Female** **N (%)**	**χ^2**	**p**
Was the studio clean?	183 (98)	26 (87)	145 (96)	4.20	.040
Did the piercing artist use a new needle?	184 (97)	29 (97)	146 (96)	.03	.873
Was the studio well lit?	184 (96)	28 (93)	146 (96)	.44	.507
Did the piercing artist wear gloves?	182 (96)	29 (97)	142 (93)	.47	.495
Did you sign a consent form?	176 (94)	25 (83)	141 (94)	3.97	.046
Was a hollow needle used?	101 (84)	15 (50)	82 (55)	.22	.640
Did the piercing artist mention possible risks?	138 (79)	17 (59)	115 (76)	3.83	.050
Did you ask the piercing artist about risks?	120 (65)	16 (53)	93 (62)	.71	.399
Was an autoclave used to sterilize equipment?	110 (61)	17 (57)	92 (62)	.27	.603
Was a piercing gun used?	53 (29)	13 (43)	32 (21)	6.45	.011
Did you have complications from the piercing?	34 (18)	6 (21)	27 (18)	.12	.732

Notes: The sum of male and female responses does not always equal the total sum due to some respondents refusing to report their gender. Missing values excluded from analyses. N=185.

Risk Consideration and Safe Piercing Practices

Before getting pierced, one-third of students (31%) spent less than one week seriously considering the piercing, one-fourth (27%) spent 1 to 4 weeks, and less than one-half (41%) spent greater than 4 weeks. Students who received mostly C's, D's, or F's during the previous 12 months (n=17, 52%) were significantly more likely than students who received mostly A's or B's (n=41, 26%) to have spent less than one week seriously considering getting their piercing. Prior to obtaining their most recent piercing, 90% discussed it with a friend, 47% with a parent, 29% with a sibling, 3% with a health professional, 3% with a physician, and 7% with some other type of individual. Females (n=84, 52%) were significantly more likely than males (n=7, 23%) to have discussed the piercing with a parent prior to obtaining it.

Most students considered the potential piercing risks of infection (81%) and scarring (70%) prior to their most recent piercing (Table 4). Less than half (43%) considered the risk of an allergic reaction. The overwhelming majority of students did not consider HIV (69%), hepatitis B (80%), hepatitis C (80%), tetanus (80%), or tuberculosis (91%) as potential risks. Females were significantly more likely than males to have considered infection (85% vs. 59%, respectively), scarring (75% vs. 45%, respectively), or allergic reaction (47% vs. 23%, respectively) as potential risks. Students were asked to rate on a five-point Likert-type scale how strongly they agreed or disagreed that illnesses such as hepatitis B, hepatitis C, and HIV can lead to death. Results indicated that 85% agreed/strongly agreed that these illnesses can lead to death (M=4.29, SD=.99). Pierced students (M=4.46, SD=.86) were significantly more likely than unpierced students (M=4.21, SD=1.04) to believe that

these illnesses can lead to death.

Nearly all students reported that when they received their most recent piercing, the studio was clean (98%) and well lit (97%), the piercing artist used a new needle (97%) and wore gloves (96%), and they personally signed a consent form (94%). The majority of students also reported that a hollow needle was used (84%), that the piercing artist mentioned possible risks (79%), that they asked the piercing artist about risks (65%) and that an autoclave was used to sterilize equipment (61%). One in six students (18%) reported that they had complications from the piercing. Females were significantly more likely than males to report that the studio was clean (96% vs. 87%, respectively), that they signed a consent form (94% vs. 83%, respectively), and that the piercing artist mentioned possible risks (76% vs. 59%, respectively). Males were significantly more likely than females to report that a piercing gun was used (43% vs. 21%, respectively).

Involvement in Risky Health Behaviors Based on Body Piercing Status

Students were asked a series of questions to assess their overall involvement in sexual behaviors, substance use, and suicide and to determine whether such involvement differed based on piercing status. Results indicated that 82% had participated in oral sex and 84% had engaged in sexual intercourse (Table 5). More than half of sexually active students reported using a condom (53%) or birth control (64%) during their most recent sexual intercourse. Pierced students were significantly more likely than unpierced students to have ever participated in oral sex (87% vs. 78%, respectively) or sexual intercourse (89% vs. 80%, respectively). Pierced students and unpierced students did not differ significantly in condom use, birth control use, number of lifetime sexual partners, or number of recent sexual partners.

Regarding substance use during the previous 30 days, students on average reported drinking alcohol on 5.21 days (SD=5.72), drinking alcohol and driving on .94 days (SD=2.83), drunk driving on .46 days (SD=2.16), binge drinking on 3.30 days (SD=4.70), smoking cigarettes on 4.74 days (SD=9.81), smoking marijuana on 1.60 days (SD=5.78), and using Ecstasy on .04 days (SD=.56). Pierced students smoked cigarettes on significantly more days (M=6.97, SD=11.28) than unpierced students (M=3.51, SD=8.67).

Regarding suicide, 13% reported that they had ever seriously considered attempting suicide, 5% seriously considered attempting suicide in the previous 12 months, 1% made a suicide plan in the previous 12 months, and .2% attempted suicide in the previous 12 months. Suicidal ideation/behavior did not differ significantly based on piercing status.

DISCUSSION

The present study found that one in three university students (35%) reported ever having a body piercing (excluding the earlobe). Mayers and colleagues[4] found that 51% of students at a New York university were pierced. The difference in the prevalence between the two studies may be due in part to the fact that earlobe piercings were included in the Mayers study. Such piercings were excluded from the present study due to their overwhelmingly frequent occurrence, especially among females, and to the fact that so many females receive earlobe piercings as young girls at malls, accessory boutiques, and even from family members. Armstrong et al.[3] found that 32% of university students currently had piercings while 13% had removed their piercings within the past year. Each of these studies indicates that a sizeable percentage of college-age individuals are involved in body piercing.

The present study also found that involvement in body piercings differed based on gender and race. Specifically, females and White students were significantly more likely than males and non-White students to report ever having a piercing. Such differences may be due to the impact that societal messages send to different gender and racial groups regarding body piercing. Although negative stereotypes and taboos against male piercings have loosened somewhat in recent years, it may still be considered a more acceptable practice for females than males. In fact, body adornment practices (i.e., makeup, jewelry, nail polish, etc.) are often considered to lie within the "feminine domain," which may account for the gender difference in piercing involvement. Previous studies have similarly found females to be more involved in piercings than males.

Regarding body location, the navel was the most common site for a body piercing, echoing similar findings by Carroll and Anderson.[17] Although no previous study was found that examined gender-based differences in piercing location, the present study did find such differences. Females were significantly more likely than males to have their piercing located on an easily observed body part (i.e., navel, nose), while males were significantly more likely to have their piercing in a less overt and more sexual location (i.e., tongue, nipple, or genitalia).

Regarding reasons for obtaining a piercing, females were more likely to state that they obtained their piercing to be fashionable and because "they always wanted one." The wish to be fashionable has been identified in previous studies as a common reason for piercing.[7] In today's fashion world, females frequently wear shirts that expose the midriff, thereby allowing navel piercings to be readily observed.

Males were more likely than females to state that they obtained their piercing due to peer pressure. Interestingly, the most common reason for body piercing among adolescents is peer pressure and the desire to fit into a certain group.[18] Males were also more likely to state that they acquired their piercing "to be different than expected." It may be the case that males feel more pressure in their peer groups to engage in activities that are different from individuals outside their group but common within their group. This finding may indicate that group affiliation is more important for males than for females with regard to piercing (i.e., "if you are a member of our group, then you will do this").

Males were also more likely than females to have acquired their piercing to enhance sexual pleasure. This finding was also evident

Table 5. Involvement in Risky Health Behaviors Based on Piercing Status

Health Behavior (nonparametric)	Total N (%)	Yes Pierced N (%)	Unpierced N (%)	χ^2	p
Have you ever participated in oral sex?	418 (82)	158 (87)	260 (78)	6.26	.012
Have you ever had sexual intercourse?	428 (84)	161 (89)	267 (80)	5.86	.016
Did you use drugs or alcohol the last time you had oral sex or sexual intercourse?	113 (25)	44 (26)	69 (24)	.14	.711
Did you or your partner use a condom the last time you had sexual intercourse?	227 (53)	78 (49)	149 (56)	2.12	.146
Did you or your partner use birth control the last time you had sexual intercourse?	269 (64)	106 (68)	163 (61)	1.89	.169
Have you ever seriously considered attempting suicide?	68 (13)	28 (15)	40 (12)	.96	.328
During the past 12 months, did you ever seriously consider attempting suicide?	27 (5)	12 (7)	15 (5)	.97	.324
During the past 12 months, did you make a specific plan to attempt suicide?	3 (1)	0 (0)	3 (1)	—	—
During the past 12 months, did you make a suicide attempt?	1 (.2)	0 (0)	1 (.3)	—	—

Health Behavior (parametric)	Total M (SD)	Yes Pierced M (SD)	Unpierced M (SD)	F	p
During your lifetime, how many partners have you had sexual intercourse with?	4.02 (4.35)	4.36 (4.12)	3.83 (4.46)	1.60	.206
During the past 3 months, how many people did you engage in sexual intercourse with?	.94 (.85)	.97 (.69)	.92 (.93)	.47	.492
During the past 30 days, how many days did you use alcohol?	5.21 (5.72)	5.41 (5.16)	5.10 (6.00)	.34	.563
During the past 30 days, how many days did you drink alcohol and drive a vehicle?	.94 (2.83)	.82 (2.58)	1.00 (2.95)	.51	.477
During the past 30 days, how many days did you drive a vehicle when you were legally drunk (blood alcohol content > .10)?	.46 (2.16)	.34 (2.02)	.52 (2.23)	.75	.387
During the past 30 days, how many days did you drink 5 or more alcoholic beverages during one occasion?	3.30 (4.70)	3.33 (4.33)	3.28 (4.90)	.02	.901
During the past 30 days, how many days did you smoke at least one cigarette?	4.74 (9.81)	6.97 11.28)	3.51 (8.67)	14.76	.000
During the past 30 days, how many days did you smoke marijuana?	1.60 (5.78)	1.87 (6.42)	1.46 (5.40)	.58	.445
During the past 30 days, how many days did you use Ecstasy (MDMA)?	.04 (.56)	.02 (.21)	.05 (.68)	.28	.597

in piercing location, since males were more likely than females to have sexual body parts pierced. Such findings seem to indicate that males obtain body piercings more for sexual reasons or group affiliation reasons, while females do so more for body adornment and fashion reasons.

Research has shown that many university students obtain piercings while at large public gatherings, such as parties or concerts.[5] However, the present study found that most received their piercing from a tattoo parlor or a piercing studio. Females were significantly more likely than males to have obtained their most recent piercing at a tattoo parlor, perhaps underscoring females' greater concern for safety and risk reduction. Nevertheless, although locations such as tattoo parlors and piercing studios are an improvement over parties and concerts, there are few governmental regulations concerning safe piercing practices,[18,19] and most piercings are performed by unlicensed, unregulated individuals.[11,12,20] Therefore, tattoo parlors and piercing studios may still pose a variety of health problems, especially if piercing artists are undertrained, equipment is not properly sterilized, and general conditions are unclean. Health educators may consider rectifying these issues by advocating for increased governmental or industry regulation regarding safe piercing practices.

Regarding risk consideration, most students considered the risk of infection and scarring prior to their piercing but did not consider the risk of allergic reaction, HIV, hepatitis B, hepatitis C, tetanus, or tuberculosis. In addition, although most pierced students stated that the piercing artist mentioned potential risks, one in three pierced students did not ask the artist about risks. Perhaps many students are ill-informed about the potential risks and believe that piercings are safe. Indeed, two-thirds reported that information on the risks of piercings would help them to make informed decisions regarding future piercings. Approximately one in six students reported having a complication from their most recent piercing. Previous studies have indicated that a sizeable percentage of piercings result in infections and complications, even with proper after-care.[6] Overall, some piercing sites are more vulnerable to complications. Problems with navel piercings—the most frequent piercing site among participants in this study—are quite common. In fact, an estimated 40% of all complications result from navel piercings.[4] Navel piercings can be easily infected due to tight-fitting clothing which allows moisture to collect and thus contributes to infection.[18] Regardless of location, it appears that increased education regarding potential complications is clearly warranted.

Concerning risk consideration based on gender, females were more likely than males to consider infection, scarring, and allergic reaction as possible risks. Females also reported engaging in much safer behaviors related to their piercing, such as spending more time thinking about the piercing before going through with it, obtaining the piercing in a clean studio, and signing a consent form. Conversely, males spent less time thinking about the piercing, were less likely to consider potential risks, and were more likely to have used alcohol and/or other drugs prior to the piercing. Thus, awareness campaigns may wish to specifically ensure that young males are informed regarding risks and safety precautions.

The findings from this study indicate that pierced students were significantly more likely than unpierced students to have engaged in oral sex and sexual intercourse. Although there is a paucity of research on body piercings and health behaviors among the college population, similar studies of adolescents have also found that pierced individuals are more likely than unpierced individuals to engage in sexual intercourse and risky sexual behaviors.[17] However, the present study did not find a significant relationship between unsafe sexual behaviors (i.e., not using a condom or birth control) and piercing status.

Limitations of this study should also be noted. First, its monothematic nature may have resulted in a response set-bias. Second, since data was self-reported, socially desirable responses may have been elicited from some individuals. Lastly, the sample comprised students from one Midwestern university. Thus, the results may not be generalizable to students nationwide.

TRANSLATION TO HEALTH EDUCATION PRACTICE

The findings of this study have direct implications for the field of health education. Health educators should remain aware of the risks and potential complications of body piercings and seek to share this information with young adults. The question arises as to whether health educators should devise interventions to prevent young adults from getting pierced or, instead, devise interventions to ensure that young adults who obtain piercings do so in a safe manner. It is interesting to note that of the 18% of pierced students who had experienced complications with their piercing, 67% still wanted an additional piercing(s). This tends to indicate that health educators are quite likely to encounter real challenges in devising effective interventions aimed at preventing piercings. Since piercings and other forms of body modification are legal and can be undertaken in a safe manner, it appears most logical to educate young adults on the possible risks of piercings and how to safely obtain them. Safe piercing practices greatly reduce the risk of infections, complications, and disease transmission. Such practices include obtaining a piercing from a licensed and regulated piercing artist in a clean and well-lit piercing studio, ensuring that the artist uses a sterilized and hollow needle, having the artist discuss all piercing steps and possible risks prior to the piercing, considering all risks involved in the piercing, ensuring that an autoclave is used to sterilize piercing equipment, and signing a consent form. Two-thirds of all students (65%) reported that information about the risks of body piercing would be helpful in making decisions on whether they obtain future piercings. Health educators should therefore meet this need by providing information to help young adults in making safe, healthy, and informed decisions.

In conclusion, awareness campaigns

aimed at increasing students' knowledge of potential risks and safe piercing practices are clearly needed, especially those that target male students. Future studies should seek to more fully examine students' attitudes and behaviors regarding piercings and should evaluate the efficacy of community and university awareness campaigns on safe piercing practices among university students.

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